

PARASITES OF WESTERN AUSTRALIA
XII
ATOPOMELIDAE PARASITIC ON RODENTS
(ACARI: LISTROPHOROIDEA)

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&

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ABSTRACT

Eleven named species of atopomelid fur-mites belonging to three genera (including *Teinochirus* gen. nov.), are recorded from Western Australian rodents. These are: *Murichirus quasimelomys* sp. nov., *M. alatus* sp. nov., *M. alatus prosquamatus* subsp. nov., *M. dorsostriatus* sp. nov., *M. dorso-scutatus* sp. nov., *M. lobatitarsis* sp. nov., *M. zyzomys* sp. nov., *M. mastacomys* sp. nov., *Teinochirus vermicularis* sp. nov., *Listrophoroides (Marquesania queenslandicus* Womersley and *L. (M.) papuanus* Fain.

INTRODUCTION

Only two genera of Atopomelidae were previously known from Australian rodents: *Listrophoroides* Hirst, 1923 and *Murichirus* Fain, 1971. Each of these genera were represented by two species: *Listrophoroides queenslandicus* (Womersley, 1943), *L. papuanus* Fain, 1970, *Murichirus enoplus* (Domrow, 1956) and *M. notomys* Fain, 1971.

In the present paper we describe a new genus, *Teinochirus*, represented by a new species *T. vermicularis*, and seven new species of the genus *Murichirus*, all from murid rodents from Australia.

Length of the body includes the gnathosoma, the width is the maximum width of the body.

Abbreviations utilized for the institutions: BM (British Museum, Natural History, London); DZUN (Department of Zoology, University of Nijmegen, The Netherlands); FMNH (Field Museum, Natural History, Chicago); IMT

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(Institute of Tropical Medicine, Antwerp); RMNH (Rijksmuseum Natural History, Leiden, The Netherlands); USNM (United States National Museum, Washington D.C.); WAM (Western Australian Museum, Perth).

SYSTEMATICS

Family Atopomelidae Gunther, 1942

Genus *Murichirus* Fain, 1971

If we include the new species described herein, *Murichirus* contains 23 species of which 12 are endemic to New Guinea, 10 are endemic to Australia and one is present in both areas. This genus is represented both on murid rodents (by 20 species) and marsupials (by three species). It is divided into two subgenera: *Murichirus* Fain, 1971 and *Murichiroides* Fain, 1971.

Key to the Males of Genus *Murichirus* (*Murichirus*)

(Partly after Fain, 1977)

(N.B. The males of *M. longior* and *M. ornatus* are unknown)

- 1 Posterior part of opisthonotum with numerous erect scales 2
 Posterior part of opisthonotum without erect scales (in some species, striations in this region are sinuous) 3
- 2 Anterior region of hysteronotum with a punctate shield. Penis short, situated close to posterior extremity of body *M. moschati* (Domrow, 1961)
 Anterior region of hysteronotum soft, without shield. Penis longer, situated close to coxae IV *M. petaurus* Fain & Lukoschus (in press)
- 3 Posterolateral corners of postscapular shield with a triangular flat process directed posteriorly 4
 Posterolateral corners of postscapular shield rounded without a posterior process 5
- 4 Coxae II with large, membranous, posterior processes. About 15-20 μm thick and rounded scales close together in middle part of hysteronotum. Posterolateral process of postscapular shield long and slightly curved *M. alatus* sp. nov.

- Coxae II without posterior processes. Hysteronotum striate, without scales or shields. Posterolateral process of postscapular shield short and straight *M. dorsostriatus* sp. nov.
- 5 Body 756 μm long. Coxa III tapering posterolaterally into a narrow, straight process. Nearly all dorsal striations strongly oblique or longitudinal *M. maximus* Fain, 1975
 Body not longer than 480 μm . Coxa III of different shape. Dorsal striations mainly transverse 6
- 6 Coxa II prolonged posteriorly into a long (40-45 μm) and thick sclerotized cylindrical process. Hysterosoma soft, striate, without shields. Coxa III without a flat posterolateral process *M. zyzomys* sp. nov.
 Coxa II without process, other characters variable 7
- 7 Coxa III prolonged posterolaterally into a flat, slightly striate, curved, crescentic process 8
 Coxa III either without process or with a short posterolateral, uncurved process 13
- 8 Opisthogaster striate, without scales. Ventral surface of femur IV with two small toothlike processes; ventral surface of genu IV with a small, apical toothlike process *M. simplex* Fain, 1977
 Opisthogaster striate with several well-developed scales. Ventral processes of femur and genu IV variable 9
- 9 Ventral surface of femur IV with two stout processes: one subbasal, triangular in shape and directed perpendicularly to segment, the other apical and parallel to segment *M. leopoldi* Fain, 1974
 Ventral surface of femur IV either with one apical process or with two apical and a third small, rounded basal process 10
- 10 Femur IV with three ventral processes: one apical, long narrow and strongly pointed; one preapical, small and toothlike; one basal small

- and rounded. Genu IV without process. Opisthonotum completely striate. Penis flanked by two punctate longitudinal lines *M. coxatus* Fain, 1977
- Femur IV with only one ventroapical, either rounded, truncate or bifid process. Genu IV with one apicoventral pointed process. Opisthonotum not striated in the midline. Penis variable 11
- 11 Crescentic process of coxa III broad. Ventral process of femur IV broad. Without an inverted Y sclerite in front of penis. Metapodonal shield partly or completely striate. Body 360-430 μm long 12
- Crescentic process of coxa III small. Ventral process of femur IV smaller and rounded. With an inverted Y sclerite in front of penis. Metapodonal shield not striate. Body 320-340 μm long *M. pogonomys* Fain, 1972
- 12 Ventral process of femur IV truncate *M. melomys* Fain, 1972
- Ventral process of femur IV bifid *M. quasimelomys* sp. nov.
- 13 Penis cylindrical, very long (225 μm) *M. scorteus* Fain, 1972
- Penis small, 2-3 times longer than wide 14
- 14 Opisthonotum completely punctate, non-striate. Penis conical *M. dorsoscutatus* sp. nov.
- Opisthonotum striate, either punctate or soft. Penis variable 15
- 15 Tibiotarsus IV with a ventral bifid lobe. Femur IV with a small apical process. Genu IV with a long ventroapical process. Penis wide at its base and abruptly narrowed near apex, surrounded by a large and thick U-shaped sclerite. Hysteronotum strongly punctate laterally with sinuous striations. Body 556 μm long *M. lobatitarsis* sp. nov.
- Without bifid lobe on ventral surface of tibiotarsus IV. Femur, genu IV and penis variable. Hysteronotal striations not sinuous. Body 330-480 μm long 16
- 16 Penis bifid apically, surrounded by a U-shaped sclerite. Striate posterior margin of postscapular shield very narrow. Striations of metapodotum

- directed obliquely. Without ventral processes on genu and femur IV *M. notomys* Fain, 1971
- Penis not bifid apically, may or may not be surrounded by a U-shaped sclerite. Striate posterior margin of postscapular shield wider. Striations of metapodotum directed transversely. With toothlike processes on genu or femur IV 17
- 17 Body 320-330 μm long, strongly sclerotized. Setae *a* 3 and ℓ 5 shorter than penis *M. coriaceus* Fain, 1974
- Body 450-470 μm long, less sclerotized; hysteronotum bearing only transverse punctate bands. Setae *a* 3 and ℓ 5 longer than penis 18
- 18 Setae *d* 4, ℓ 3, ℓ 5 and *a* 3 about 75 μm long. Setae *a* *e* very thin and shorter (15 μm) than *a* *i*. Penis 21 μm long, conical with a pointed apex, surrounded by a U-shaped sclerite. Postscapular shields widely fused in the midline . . . *M. mastacomys* sp. nov.
- Setae *d* 4, ℓ 3, ℓ 5 and *a* 3 shorter. Setae *a* *e* longer and stronger than *a* *i*. Penis 14 μm long, with rounded apex, and flanked by two sclerotized curved bands. Postscapular shields contiguous in the midline *M. enoplus* (Domrow, 1956)

1 *Murichirus (Murichirus) melomys* Fain, 1972

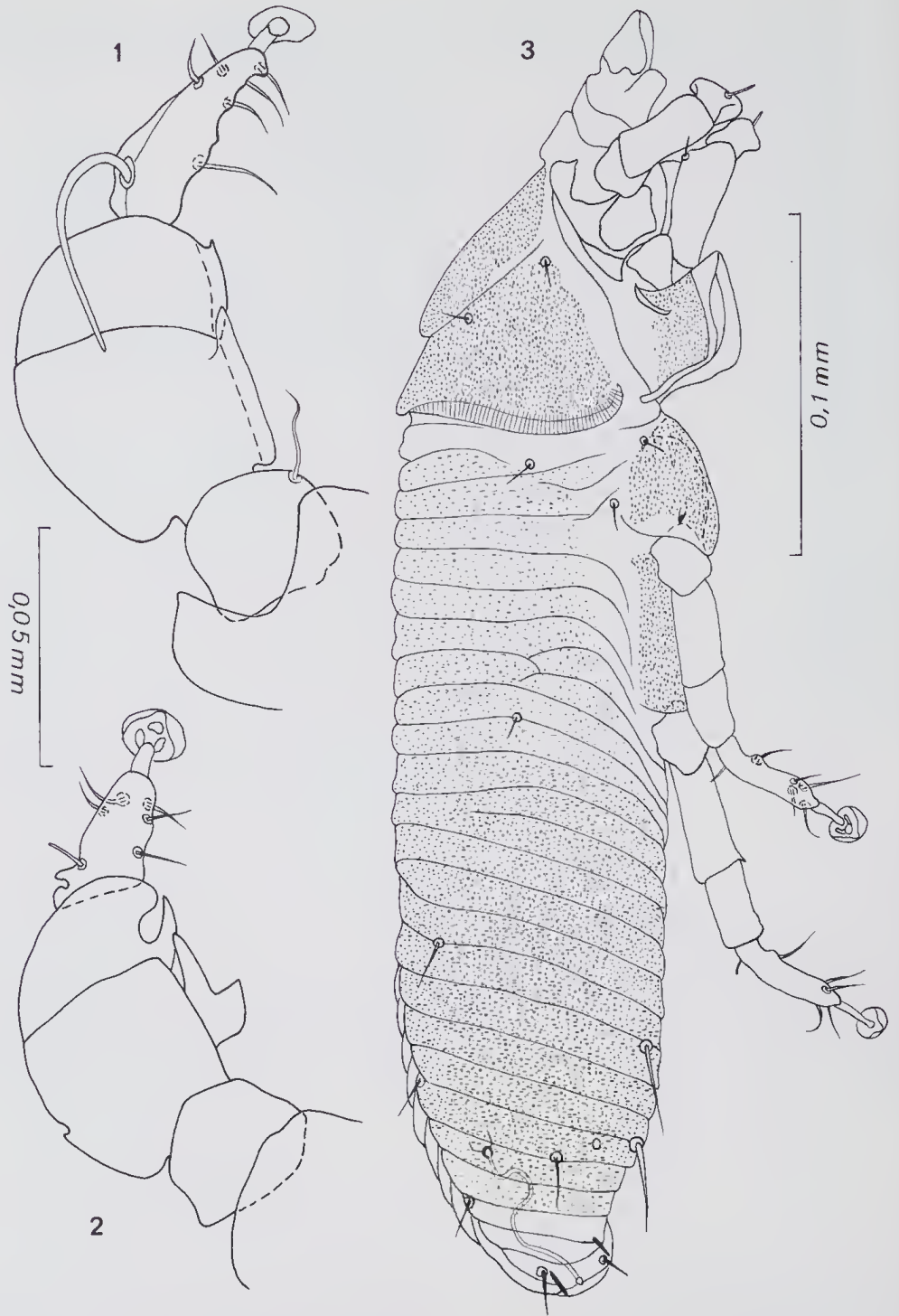
Material examined and host information

WAM: one female parasitic on rat *Melomys* sp. collected at Port Warrender (14°30'S, 125°50'E), 30 October 1976 (Kimberley Expedition). Host registration 3141. RMNH: three males and three nymphs on *Uromys brunyii* Peters & Doria, collected at Kapa Kapa, New Guinea. Host registration RMNH 1901.

2 *Murichirus (Murichirus) quasimelomys* sp. nov.

Description

This new species is close to *M. melomys* Fain. It is distinguished from this species in the female by the smaller length of the setae *a* 3 and ℓ 3 and the shorter length of the bursa. The male differs from that of *M. melomys* by the different shape of the ventral process of the femur IV.



Figs 1-3: *Murichirus (Murichirus) quasimelomys* sp. nov. 1-2—Holotype male, legs III (1) and IV (2). Fig. 3: Paratype female.

Holotype: male (Figs 1-2) 375 μm long and 117 μm wide (in lateral view). Posterior shield with a striated border. Coxa III with a large curved and striated flat process. Opisthonotum striated, slightly punctate. Opisthosoma 90 μm long. Legs III-IV strongly inflated. Femur IV with a large bifid ventral process, genu IV with a pointed process. Tibiotarsus IV distinctly shorter than tibiotarsus III. Chaetotaxy of opisthosoma well developed, setae up to 60 μm long.

Allotype: female (Fig. 3) 360 μm long and 96 μm wide (in oblique view). Hysteronotum well sclerotized, especially in its posterior half. Bursa 65-70 μm long. Setae a 3 and ℓ 3 21-25 μm long. Copulatory pore situated laterally to anus, closer to dorsum than to venter.

Material examined and host information

Holotype: WAM 80-328, parasitic on rat *Melomys* sp., collected at Port Warrender, Western Australia (14°30'S, 125°50'E), 30 October 1976 (Kimberley Expedition). Host registration 3140.

Paratypes: from the same species of rat FMNH 3141; WAM 80-329, one male, allotype and three females; WAM 80-193, two nymphs; FMNH, one male, four females; IMT, one male, three females; DZUN, one male, three females; USNM, five males and five females parasitic on *Melomys cervinipes* (Gould, 1852), collected at Atherton Tableland, Queensland (approximately 17°16'S, 145°29'E), August 1921; animal in USNM.

3 *Murichirus* (*Murichirus*) *alatus* sp. nov.

Description

Holotype: male (Fig. 4) 510 μm long and 135 μm wide (in lateral view). Measurements in two male paratypes: 490 μm x 135 μm and 495 μm x 130 μm . Postscapular shield with long (45 μm) posterolateral prolongation slightly curved dorsally and strongly tapering apically. Hysteronotum soft, mostly obliquely striated except in its middle part where there is a group of approximately 20 thick and rounded scales. This group of scales is situated between coxae III and IV and is separated from the postscapular shield by about 13-14 thick striations. Coxa II with a well-developed, rounded membranous posterior process. Coxae III separated in the midline by a deep groove 105 μm long. Penis bifid. Legs III-IV strongly inflated. Postero-lateral process on coxa III absent.

Allotype: female (Fig. 5) 453 μm long and 115 μm wide (in lateral view). Prescapular and postscapular shields separated. Opisthonotum and opisthogaster poorly sclerotized and striated transversely. Coxae II and III without processes. Legs III-IV well developed, the femora 1-5 times longer than the



Figs 4-5: *Murichirus (Murichirus) alatus* sp. nov. 4—Holotype male, 5—Allotype female.

respective genera. Chaetotaxy of the idiosoma very thin and short. Copulatory pore situated immediately above the anus.

Material examined and host information

Holotype: WAM 80-346, parasitic on rat *Notomys alexis* Thomas, 1922; collected at Wanjarri Reserve, Western Australia (27°24'S, 120°39'E), 8 January 1975. Host registration WAM M12964 (Coll. P. Lambert).

Paratypes: WAM 80-262 to 265 and 80-347, five males and eight females; FMNH, four males, seven females; IMT, four males and seven females; DZUN, four males, seven females, collected from the same animal as holotype.

Murichirus (Murichirus) alatus prosquamatus subsp. nov.

Description

This subspecies differs from the typical form in the male by the following characters: dorsal scales smaller, more numerous (about 30), wider than long and situated closer to the posterior margin of the postscapular shield. This group of scales is situated at the level of coxa III and is separated from the postscapular shield by only nine thick striations.

Holotype: male 448 μm long and 125 μm wide (in lateral view) (Fig. 6).

Allotype: female 420 μm long and 96 μm wide. Except for the smaller size of the body the female is not separable from that of the typical form.

Material examined and host information

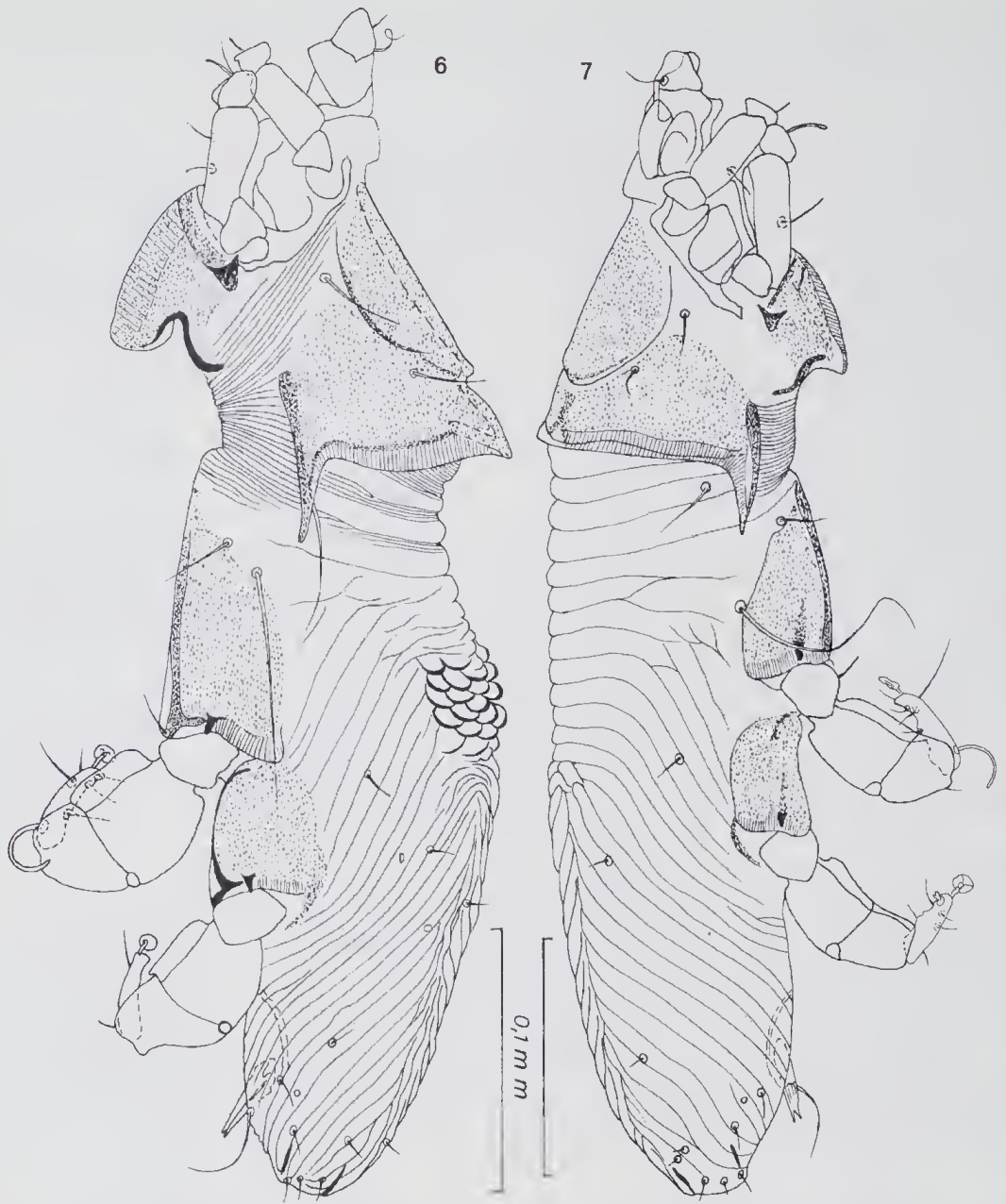
Holotype: WAM 80-330, parasitic on rat *Pseudomys hermannsburgensis* (Waite, 1896), collected at Disappointed Hill, Western Australia (28°03'S, 125°02'E), 12 March 1975. Host registration WAM M13280 (Coll. A.A. Burbidge).

Paratypes: collected from the same animal WAM 80-331 and 260, allotype two females and two nymphs; FMNH, one male, two females, two nymphs; IMT, two females, one nymph; DZUN, two females, one nymph.

4 *Murichirus (Murichirus) dorsostriatus* sp. nov.

Description

This species presents, as in *M. alatus*, a membranous pointed prolongation on the lateral corners of the postscapular shield. It differs from this species by the much smaller length of this prolongation and by the absence of scales on the dorsum of the male. The female is unknown.



Figs 6-7: 6—*Murichirus (Murichirus) alatus prosquamatus* spp. nov. Holotype male.
 7—*Murichirus (Murichirus) dorsostriatatus* sp. nov. Holotype male.

Holotype: male (Fig. 7) 465 μ m long and 118 μ m wide (in lateral view). Postero-lateral prolongation of postscapular shield 30 μ m long. Hysteronotum soft, striated, without scales or shields. Opisthosoma 135 μ m long,

with striations obliquely directed. Coxal groove III 75 μm long. Penis conical, short, apparently bifid apically and surrounded by a U-shaped sclerite. Legs III-IV inflated. Opisthosomal setae short except *gp* which is 30 μm long.

Female: unknown.

Material examined and host information

Holotype: WAM 80-353, parasitic on rat *Notomys alexis*, collected at Wanjarri Reserve, Western Australia (27°24'S, 120°39'E), 8 January 1975 (Coll. P. Lambert). Host registration WAM M12964.

Paratypes: WAM 80-269, one male; FMNH, two males; IMT, two males; DZUN, two males, from the same host as the holotype.

5 *Murichirus (Murichirus) dorsoscutatus* sp. nov.

Description

The body is well sclerotized in both sexes. In the male coxae II and III and the postscapular shields are devoid of membranous or sclerotized processes. The opisthonotum is covered by a large unstriated shield. In the female coxa II presents a sclerotized process on the posterior border of coxa II.

Holotype: male (Fig. 8) 340 μm long and 115 μm wide (in oblique view). In two paratypes: 310 μm x 90 μm and 315 μm x 90 μm (in ventral view). Prescapular and postscapular shields fused. Hysteronotum sclerotized and striated in its anterior half, with a non-striate shield on opisthonotum. Opisthosoma 72 μm long. Coxal II groove 60 μm long. Penis conical, not bifid, flanked by two curved sclerites. Posterior legs rather long and inflated. Legs III longer and thicker than legs IV. Chaetotaxy of opisthosoma very thin, not longer than 20 μm .

Allotype: female (Fig. 9) 315 μm long and 90 μm wide (in lateral view). Body well sclerotized. Prescapular and postscapular shields large, fused. Hysteronotum striated transversely and strongly punctate. Opisthogaster soft with posterior quarter transversely striate and anterior three-quarters longitudinally striate. Coxa II with a posterointernal narrow pointed process 18 μm long. Bursa relatively short. Chaetotaxy of idiosoma very short. Legs III-IV long, especially femora which are more than twice as long as respective genua. Copulatory pore situated dorsally 40 μm above anus.

Material examined and host information

Holotype: WAM 80-349, parasitic on rat *Notomys alexis* collected at Wanjarri Reserve, Western Australia (27°24'S, 120°39'E), 16 January 1975. Host registration WAM M12964 (Coll. P. Lambert).



Figs 8-9: *Murichirus (Murichirus) dorsoscutatus* sp. nov. 8—Holotype male.
9—Allotype female.

Paratypes: WAM 80-358, 266 to 268, five males, allotype female; FMNH, five males, one female; IMT, five males, one female; DZUN, five males, from the same animal as holotype and from host WAM M13330, from Miss Gibson Hill; BM, one male (no. 1980.5.20.2) and one female (no. 1980.5.20.1) (the mites were fixed in the middle of the dorsum), collected from the same host from Armstrong Creek, Central Australia (25°6'S, 130°14'E). Host registration BM 701295.

6 *Murichirus (Murichirus) lobatitarsis* sp. nov.

Description

This species is well characterized by the presence of a bilobate lobe on the ventral surface of tarsus IV in the male.

Holotype: male (Fig. 10) 556 μm long and 126 μm wide (in lateral view). Coxae II and III without processes. Postscapular shield with wide striated membranous posterolateral margins. Hysteronotum with sinuous and partly scaly striations, cuticle punctate. Coxal III groove 95 μm long. Opisthosoma 105 μm long. Legs III-IV inflated. Leg III longer but thinner than leg IV. Tarsi IV with a large bifid ventral process. Penis short, apparently bifid.

Allotype: female (Fig. 11) 516 μm long and 110 μm wide (in lateral view). Body strongly sclerotized. Hysteronotum with a sinuous striation. Coxae II-III without processes. Bursa relatively very long (160 μm) and twisted, with a distal part thickened and sclerotized. Copulatory pore situated at the lateral side of the anus. Legs III-IV well developed with femora a little more than twice as long as the respective genus. Opisthosoma without long or stout setae.

Material examined and host information

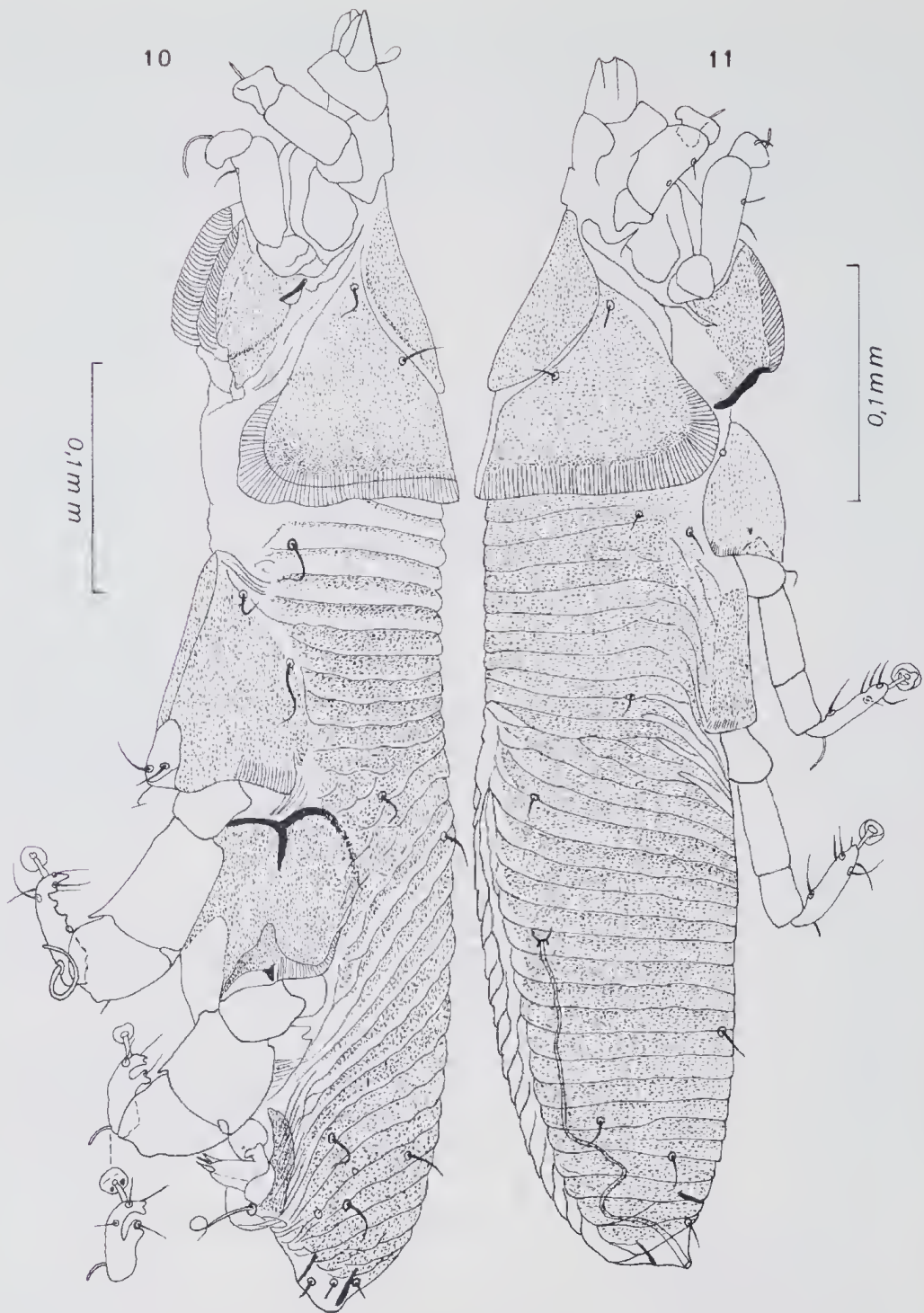
Holotype: WAM 80-354, parasitic on rat *Melomys* sp., collected at Port Warrender, Western Australia (14°30'S, 125°50'E), 30 October 1976 (Kimberley Expedition). Host registration FMNH collection 3141.

Paratypes: WAM 80-355 and 270 to 275, allotype and four females; FMNH, five females; IMT, five females; DZUN, four females, collected on the same animal as holotype; USNM, seven males and 38 females collected from *Melomys cervinipes* at Atherton Tableland, Queensland, August 1921. Rat in USNM.

7 *Murichirus (Murichirus) zyzomys* sp. nov.

Description

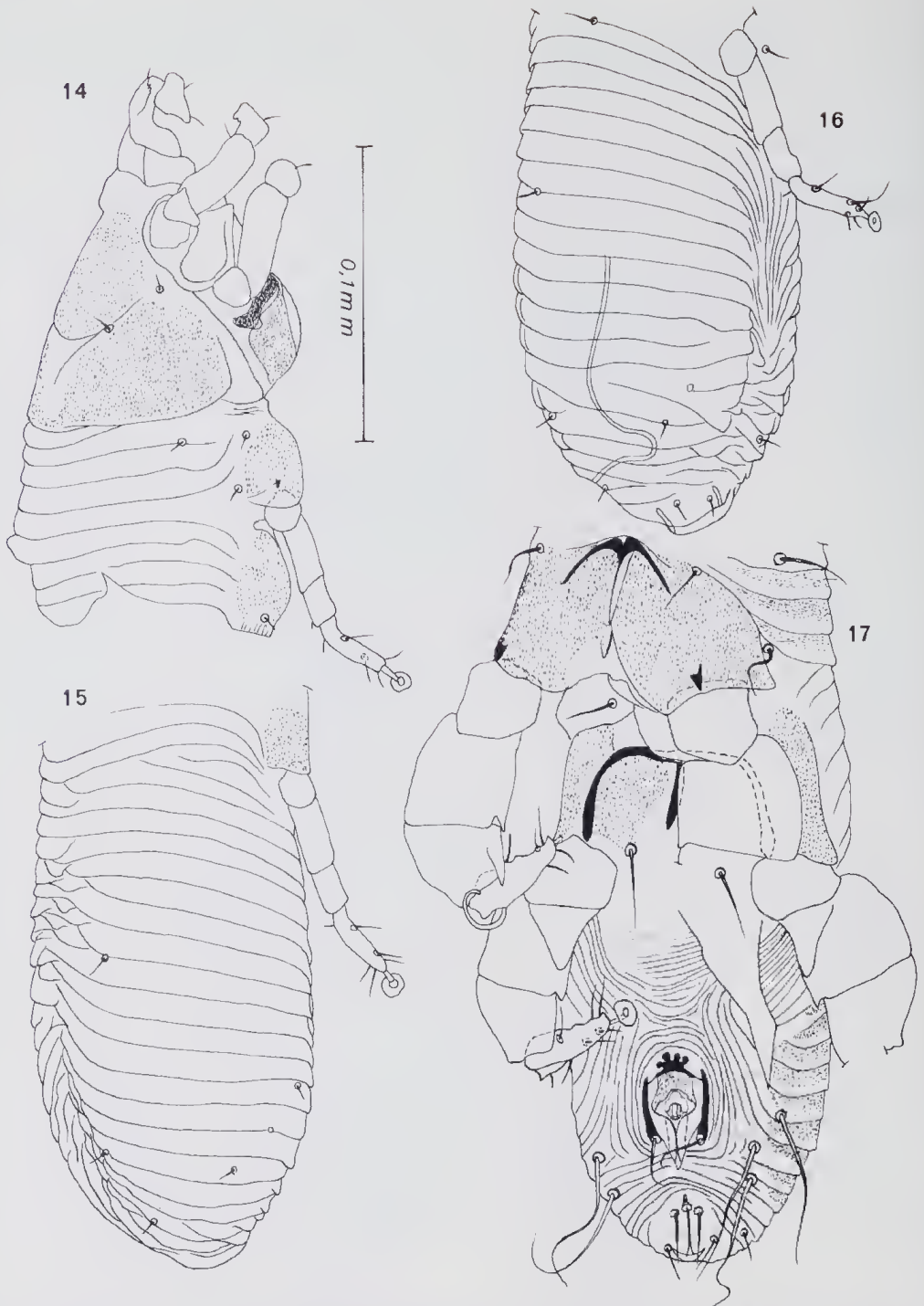
This species is clearly distinguished in the male by the presence on coxa II of a sclerotized cylindroconical process directed posteriorly. The female resembles *M. alatus* but the copulatory pore is more anterior.



Figs 10-11: *Murichirus (Murichirus) lobatitarsis* sp. nov. 10—Holotype male. 11—Allotype female.



Figs 12-13: *Murichirus (Murichirus) zyzomys* sp. nov. Holotype male in ventrolateral (12) and dorsolateral (13) view.



Figs 14-17: 14-16—*Murichirus (Murichirus) zyzomys* sp. nov. Allotype female: Anterior half (14); posterior half in dorsolateral (15) and ventrolateral view (16). 17—*Murichirus (Murichirus) mastacomys* sp. nov. Holotype male, hysterosoma ventrally.

Holotype: male (Figs 12, 13) 418 μm long and 105 μm wide (in oblique view). Prescapular and postscapular shield separated, the latter is very short in the midline. Hysteronotum soft, striated, these striations are slightly sinuous in the median part of dorsum. Coxa II with a strong cylindroconical process 40 μm long. Coxa III without process. Opisthosoma 120 μm long, opisthogaster without scales. Penis conical, flanked by two punctate longitudinal stripes. Legs III-IV inflated. Femur IV with a short apical prolongation, genu IV with a longer apical process.

Allotype: female (Figs 14-16) 420 μm long and 117 μm wide (in lateral view). Pre- and postscapular shields separated, the posterior shield shaped as in the male. Hysteronotum striate, distinctly punctate in the lateral parts of opisthosoma. Copulatory pore situated dorsally at 33 μm in front of anus. Bursa poorly distinct, about 100 μm long. All opisthosomal setae very short. Legs III-IV: femora slightly less than twice as long as the respective genua.

Material examined and host information

Holotype: WAM 80-356, parasitic on rat *Zyzyomys argurus* (Thomas, 1889), Port Warrender, Western Australia (14°42'S, 125°57'E), 31 October 1976 (Kimberley Expedition). Host registration WAM M3156.

Paratypes: WAM 80-357, 80-276 and 80-277, three males, allotype female, two nymphs; FMNH, three males, one female and two nymphs; IMT, three males, one female, two nymphs; DZUN, three males, one nymph, from the same animal as holotype.

8 *Murichirus (Murichirus) mastacomys* sp. nov.

Description

This species is close to *Murichirus enoplus* (Domrow, 1956). It is distinguished from the latter in the male by the greater length of setae *d* 4, *l* 3, *l* 5 and *a* 3, the smaller length of setae *a* e (15 μm) which are shorter than the *a* i, the greater length of the penis, which terminates in a pointed apex, and the different shape of the postscapular shields which are widely fused in the midline.

Holotype: male (Figs 17, 18) 480 μm long and 135 μm wide (in lateral view). Postscapular shield long in the midline, with a distinct striated border. Hysteronotum striated transversely, and presenting wide punctated bands along the striations. Opisthogaster non-scaly. Penis conical, short, not bifid, surrounded by a U-shaped sclerite. Coxae II-III without posterior processes. Legs III-IV inflated. Femur IV with two ventral processes, genua IV with one apical ventral process.

Allotype: female (Figs 19, 20) 465 μm long and 135 μm wide (in lateral view). Hysteronotum as in the male, the transverse punctate bands do not

reach the midline. In the opisthonotum the median area presents a series of small lozenges. Most of the opisthogaster is finely striated longitudinally. Absence of processes on coxae II-III. Bursa very long (225 μm), copulatory orifice at the lateral side of the anus. Posterior part of opisthosoma with some setae 30 μm long. Legs III-IV with femora about twice as long as respective genua.

Material examined and host information

Holotype: WAM 80-351, parasitic on rat *Mastacomys fuscus* Thomas, 1882, collected at White's River, probably Mt Kosciusko area, New South Wales, 11 February 1958. Host registration WAM M5285 (Coll. D. Wimbosh).

Paratypes: from the same animal as holotype, WAM 80-352, 80-278 to 286, four males, allotype and 16 females, nymphs; FMNH, five males, 16 females, nymphs; IMT, four males, 16 females; DZUN, four males, 15 females.

Genus *Teinochirus* gen. nov.

Definition

Only the male is known. This genus differs from the genus *Murichirus* by the great elongation of the hysterosoma and the posterior situation of the legs III-IV and the penis. Podosomal shields as in the genus *Murichirus*. Type species: *Teinochirus vermicularis* sp. nov.

Teinochirus vermicularis sp. nov.

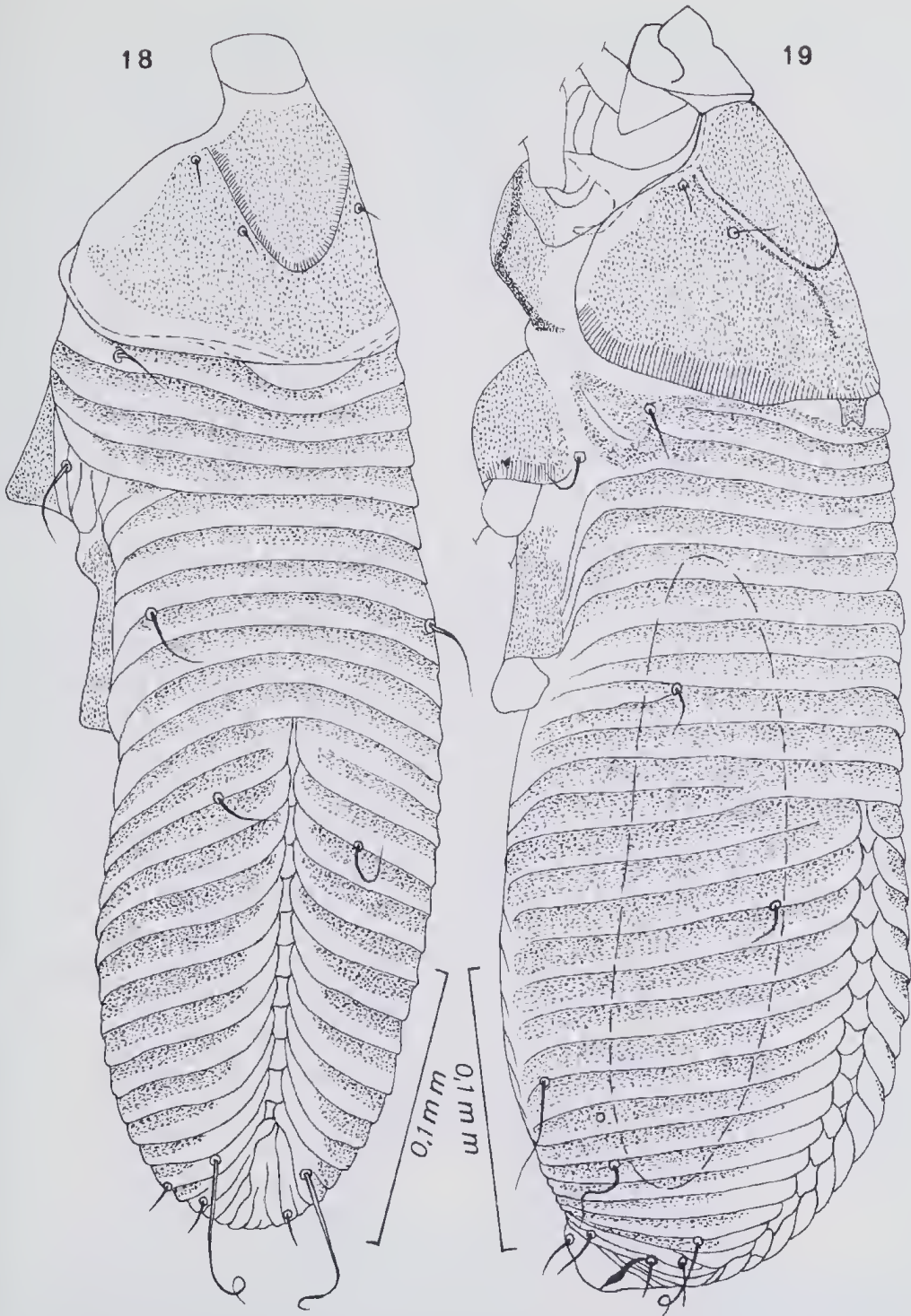
Description

Holotype: male (Figs 21-23) 825 μm long and 135 μm wide (in lateral view). Prescapular and postscapular shields strongly sclerotized, the latter bordered by a large striated membrane. Hysterosoma with thick transverse striations widely separated in its anterior part and with obliquely directed striations behind the coxae III. Behind these coxae the hysteronotum is distinctly punctate in its lateral parts. Distance between coxae II and coxae III is 300 μm . Opisthosoma short (110 μm). Penis stout, conical, surrounded by a thick crescentic sclerite open forwards. Legs inflated. Tibiotarsi IV with a slightly bilobed ventral process.

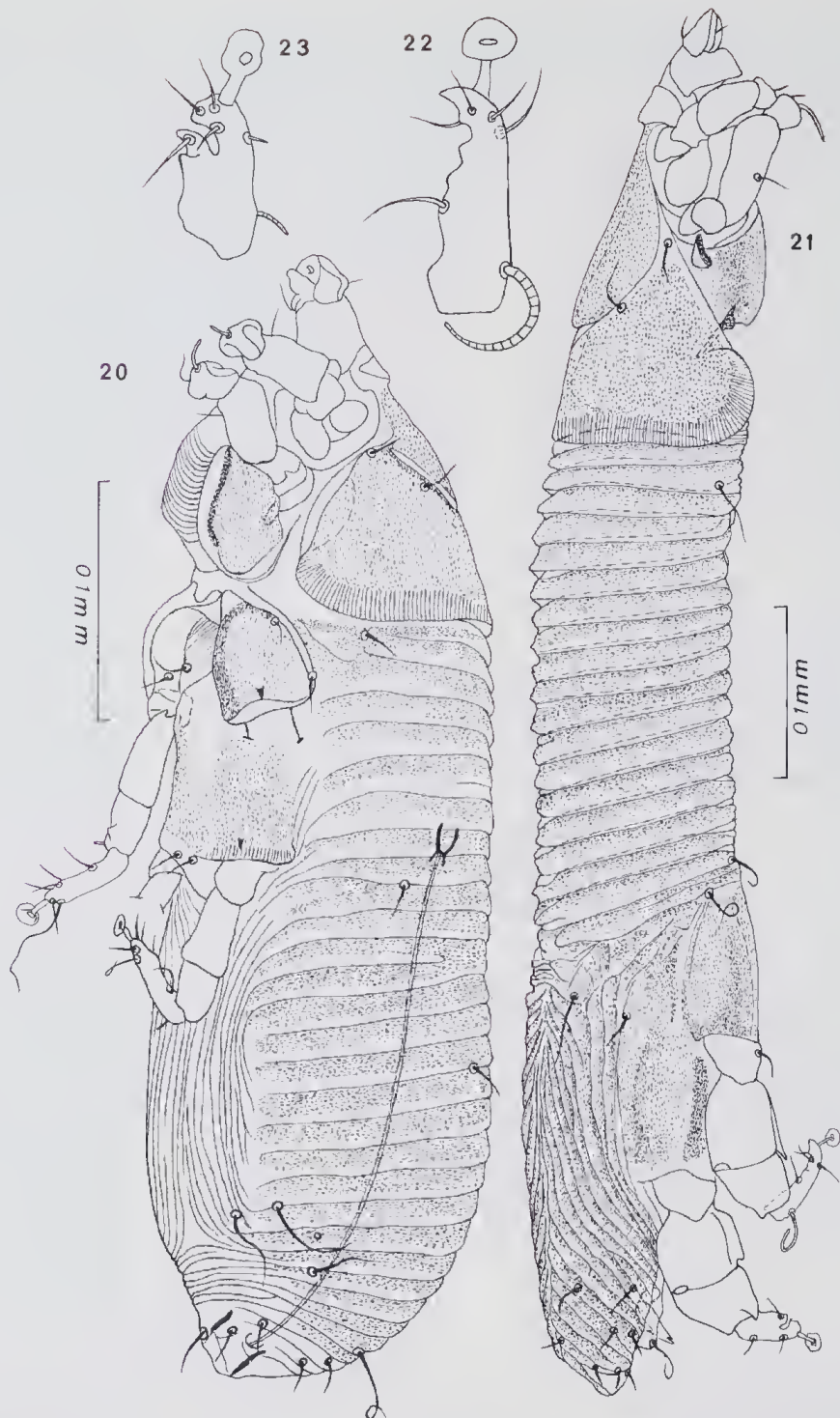
Material examined and host information

Holotype: USNM 3935, parasitic on rat *Melomys cervinipes* collected at Atherton Tableland, Queensland (17°16'S, 145°29'E), August 1921.

Paratypes: from the same animal as holotype, USNM, one male; IMT, one male; DZUN, one male.



Figs 18-19: *Murichirus (Murichirus) mastacomys* sp. nov. 18—Holotype male. 19—Allotype female in dorsolateral view.



Figs 20-23: 20—*Murichirus (Murichirus) mastacomys* sp. nov. Allotype female in ventrolateral view. 21-23—*Teinochirus vermicularis* sp. nov. Holotype male in lateral view (21); tarsi III (22) and IV (23).

Genus *Listrophoroides* Hirst, 1923
Subgenus *Marquesania* Womersley, 1943

1 *Listrophoroides (Marquesania) queenslandicus* Womersley, 1943

Species was described from *Rattus youngi* (which is probably not a valid species) and from a rat in Queensland.

Domrow (1958) recorded the species from several Australian murids. It has also been found on Australian marsupials: *Phascogale unicolor* (? *Antechinus stuartii* Macleay) and *Cercartetus concinnus* (Gould, 1845) (Fain, 1972; Fain & Lukoschus, in press).

The junior author found this species on an Australian murid: *Rattus fuscipes* (Waterhouse, 1839), Australia, 1869; rat in the RMNH, no. 20359 (8 males and 15 females).

L. queenslandicus seems to be able to live on both murid rodents and marsupials.

2 *Listrophoroides (Marquesania) papuanus* Fain, 1970

This species is common in New Guinea and Australia. In New Guinea it is represented by three subspecies: *papuanus*, *interpolatus* and *crenatus*. In Australia only the typical subspecies has been recorded so far.

In the Kimberley area the junior author collected numerous specimens of that species in the following hosts, all during Kimberley Expedition:

- 1 *Conilurus penicillatus* (Gould, 1842) — about 150 specimens, males and females, have been collected from this rat which is the typical host. Locality: Port Warrender (14°30'S, 125°50'E), 29.X.1976 (rat FMNH 3111).
- 2 *Rattus tunneyi* (Thomas, 1904) — about 100 specimens (males and females) from several rats (FMNH 3102, 3112, 3113, 3116, 3127, 3140), at Port Warrender (14°30'S, 125°50'E), 28-30.X.1976. This is a new host for this species.
- 3 *Pseudomys nanus* (Gould, 1858), from Mitchell Plateau (14°50'S, 125°49'E), 21.X.1976 (rat FMNH 3050) (eight females, four males and seven nymphs). It is a new host for that species.

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REFERENCES

- DOMROW, R. (1958)—A Summary of the Atopomelidae (Acarina: Listrophoridae). *Proc. Linn. Soc. N.S.W.* 83: 40-54.
- FAIN, A. (1972)—Les Listrophoridés en Afrique au Sud du Sahara (Acarina: Sarcoptiformes). III. Famille Atopomelidae. *Ann. Mus. roy. Afr. Cent.* (8) *Sci. Zool.* no. 197: 1-200.
- FAIN, A. (1974)—Mission zoologique du Fonds Léopold III en Irian (Nouvelle-Guinée Occidentale): Acariens parasites de Marsupiaux et de Rongeurs (Listrophoroidea). *Bull. Inst. r. Sci. nat. Belg.* 50 (7): 1-22.
- FAIN, A. (1977)—Notes on the Listrophoroid mites of New Guinea (Acarina: Listrophoroidea). *J. med. Entomol.* 14 (3): 279-297.
- FAIN, A. & DOMROW, R. (1973)—Two new fur-mites (Acari: Atopomelidae) from an Australian Tiger Cat (Marsupialia: Dasyuridae). *Proc. Linn. Soc. N.S.W.* 97 (3): 161-164.
- FAIN, A. & LUKOSCHUS, F.S. (1980)—Parasites of Western Australia. XI. Atopomelidae parasitic on Marsupials (Acari, Listrophoroidea). *Rec. West. Aust. Mus.* 8: